

Draft Recommended FY 99 Priorities¹

The following edits were offered by Jason Peltier. They focus primarily on the relationship of the FY 99 funding and the need for CALFED to address how this integrates with the overall program goals including water supply reliability. They also address scientific uncertainty and use of adaptive management. Jason's suggested edits are in "non-bold" italics.

1.0 Preamble

Recommended priorities for the Action Plan established by the Technical Panel reflect: *a) the four goals identified for the Strategic Plan; and, b) the broader goals of CALFED.* Rehabilitating the natural capacity and functional connectivity of the Bay-Delta estuary and its watershed will be the preferred method for achieving recovery and continued conservation of native species and for supporting safe, sustainable commercial and recreational fish and wildlife harvest. We recognize that in the short term, reducing stressors may have high value for some of these species. Long term success of ecological rehabilitation will require immediate protection or restoration of key functional habitat types and their connectivity.

It is critical to note that although the CALFED program elements have been to date analyzed independent of one another, a composite program analysis and prioritization must be undertaken prior to development of a preferred program alternative.

2.0 Considerations

Based *primarily* on the Strategic Plan Goals *now being put to use* (note again that these goals *must be developed and deployed in a manner that recognizes the broader CALFED objectives*), projects should be designed to address the following goals:

¹ This draft is still under review by Technical Panel members. Some sections were reviewed and members reached consensus at the meetings on 5/11/98 and 6/23/98. Other sections were drafted by staff or team members to reflect the general sense of the group at those meetings. The Ecosystem Roundtable is reviewing and commenting on this draft and is scheduled to provide final comments at their August 31 meeting.

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- A. (1) Achieve recovery of the listed native species² dependent on the Delta and Suisun Bay, (2) support recovery of listed native species in the Bay-Delta estuary and its watershed, and (3) provide for continued conservation of native species.
- B. Rehabilitate the natural capacity³ of the Bay-Delta estuary and its watershed to support, with minimal on-going human maintenance, native aquatic and associated terrestrial biological communities.
- C. Maintain and enhance populations of selected species for safe consumption and sustainable commercial and recreational harvest, consistent with goals A and B. *Harvest management goals and objectives must be established consistent with A & B above.*
- D. Protect or restore a range of key, functional habitat types for biodiversity, scientific research, and other public uses.
- E. *Maintain and enhance the performance of water management infrastructure and operation to ensure availability of supply (quantity and quality) for human needs consistent with A & B above.*

The Technical Panel did not identify any of these goals as being of higher priority than any other; that is, it is the intent of the Technical Panel that actions be identified to address each of the four goals. In many cases, an action which addresses goal A will also address goal B. *The Management Team has recommended that 75 % of the funding be focused on actions which benefit the highest priority species identified under Goal A which are the listed fish species which depend on the Delta.*

Need to define "highest priority species", the bases for these determinations and identify the potential synergies and conflicts associated with actions to improve these stocks.

² The Technical Panel defined species as it is defined under the Endangered Species Act and so it would include Evolutionarily Significant Units which could include subspecies and some runs and races.

³ The Technical Panel tentatively defined "natural capacity" as the ability of the system to maintain itself without artificial input.

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The Technical Panel recommends that the majority of the proposed actions should address multiple goals. However, in some cases, actions will be taken that only address one of the four goals. There may be a very specific problem, such as entrainment, for a listed species which can be solved only through an action, such as a fish screen, which neither results in habitat protection or in rehabilitation of the natural system. There could also be an area wherein the natural system is in need of rehabilitation; ~~such as the upper watersheds~~, where there is a level of uncertainty about the direct benefit of an action to the priority species.

3.0 Restoration Approaches

3.1 Rehabilitation and Protection of Natural Processes and Habitats

Rehabilitating the natural capacity of the Bay-Delta estuary and its watershed and protecting and restoring a range of functional habitat types will require that individual actions be evaluated to ensure that they contribute towards the goals listed above in Section 2.0. It will also be necessary to evaluate individual proposed actions in the context of other actions to ensure that all important ecological attributes have been addressed and to ensure that the resulting mosaic of habitats are appropriately connected and distributed, and are of sufficient size, configuration, and quality.

It is critical that the fact and reality of water management infrastructure and human needs be recognized as an integral part of the 21st century landscape. The fact that canals, pumps and 25 million Californians exist cannot be ignored or discounted in a myopic effort to "restore" the "natural" Delta. These facilities and their yield must be improved to meet the growing demands of a growing state.

Ecological attributes and performance indicators are being developed for the following:

- . Hydrologic processes, condition, and function
- . Geomorphic processes, condition, and function
- . Natural habitat
- . Native biological communities
- . Community energetics, and nutrient and biogeochemical cycles
- . *Water supply infrastructure condition and function*

The following ecological guidelines can guide restoration efforts:

- * *Emphasize that HUMANS are a necessary and integral factor in the ecology of the system.*

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- . Emphasize ecosystem processes and functions that increase and sustain target habitats and species.
- . When feasible, emphasize restoration of ecosystem processes using natural self-sustaining methods.
- . Emphasize protection and enhancement of existing habitats and processes *(need substantial justification of currently used theories and assumptions regarding the "goodness" of these habitats and processes)* over restoration or creation *(need to justify the CALFED program emphasis on historical conditions as indicators of present "health" -- why all the verbiage and emphasis on returning to pre-historic conditions?)*.
- . Emphasize actions that provide multiple benefits to species, habitats, and processes.
- . *Emphasize actions that most comprehensively achieve ALL CALFED objectives*
- . Give equal consideration to projects designed to address problems for which causes and remedies remain uncertain. (Suggested edit: delete "equal".)

Additional ecological principles *(these are only UNPROVEN THEORIES. CALFED adaptive management is about taking theory and implementing it in a manner that also substantiates or contradicts it so that more reasonable and prudent action is taken)*, being developed by a group working on the overall Ecosystem Restoration Program, will be included in the above list of guidelines.

Ecological processes are complex interactions that establish and sustain whole ecological systems. The stability and sustainability of such processes determine in large part the value and productivity affected ecological systems. The most effective and enduring restoration and maintenance of the Bay-Delta ecosystem is therefore one that stabilizes, restores and maintains the underlying ecological processes *and contributes to the development and sustainable operation of improved water management infrastructure*.

Because processes are descriptions of interactions among watershed constituents (DEFINE THIS), and each constituent interacts with more than one other constituent, most ecological processes are not completely separable from other processes of varying scales. There are, however, some definable landscape scale processes that can be identified as essentially self contained. The processes of this scale most affecting the Bay-Delta ecosystem include⁴:

⁴ These processes are from Table 2, page 16-17 of the ERPP.

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Central Valley Streamflows
Natural Sediment Supply
Stream Meander
Natural Floodplains and Flood Processes
Central Valley Stream Temperatures
Bay-Delta Hydraulics
Bay-Delta Aquatic Foodweb
Upper Watershed Processes - Fire and Erosion

*** The above listed "processes" are all based on unproven theories and assumptions and cannot be used as a factual basis.*

The priority importance of each of these identified processes varies by geographic location in the Bay-Delta system, and by the desired goals of individual projects or programs. For this reason, the identified processes are not prioritized here. Rather, the use of a process-oriented approach to restoration of the Bay-Delta system is a priority. Projects that propose goal attainment through directly stabilizing, restoring, or maintaining the effectiveness of one or more of the listed processes will thus be preferred.

3.2 Native species recovery and conservation

The major issue in the Bay-Delta that led to the creation of CALFED centered on the conflicts between water management and the protection and recovery of listed species. *Other considerations such water quality, drought, population growth, and flood protection are also foundational elements that CALFED was designed to address.*

Ecologically, the highest priority is to achieve recovery of the listed fish species dependent on the Delta and Suisun Bay and most adversely affected by water management. These species are:

- . Delta smelt
- . Splittail
- . Chinook salmon (all races)
- . Steelhead trout

*** Need to approach improvement for these species on the basis of their needs, whether these needs are habitat based or migration based. The opportunity to create habitat and migratory corridors for the improvement of these species in a manner compatible with water supply infrastructure improvement is at hand and should not be squandered on reverse-engineered*

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"solutions" designed primarily to achieve an agenda-based objective of curtailing water project operation in the Delta.

Human presence and progress over the past centuries and continuing into the next century is an inescapable factor. Water management for the benefit of the human race cannot be ignored. Water management is a convenient target as it is the most regulable of the functions of progress and support of humanity, but this does not indicate that water management is the sole or necessarily key factor in ecological improvement.

The second *ecological* priority is to support recovery of listed water-, wetland-, and riparian-dependent species in the Bay-Delta Estuary and its watershed, and that are adversely affected to a lesser degree by water management than are the first priority species. These species are:

- . Delta special status plant species⁵
- . California red-legged frog
- . Giant garter snake
- . California freshwater shrimp
- . Swainson's hawk
- . Clapper rail
- . California black rail
- . Greater sandhill crane
- . Western yellow-billed cuckoo
- . Bank swallow
- . Salt marsh harvest mouse
- . Riparian brush rabbit
- . Riparian woodrat
- . Aleutian Canada goose⁶
- . Valley elderberry longhorn beetle

*** Populations of migratory waterfowl may be more dependent upon ecological conditions in their nesting and breeding grounds in the northern tier than on conditions along the migratory route.*

⁵ Suisun thistle, soft bird's-beak, Mason's lilaeopsis, Delta button-celery.

⁶ This species is currently being evaluated by the US Fish and Wildlife Service for potential de-listing.

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The third priority is to provide for continued conservation of water-, riparian-, and wetland-dependent native species in the Bay-Delta Estuary and its watershed which, to some degree, are or have the potential to be adversely affected by water management. These species include candidate species and species of special concern.

In the near term, species in the Bay-Delta watershed that are not water-, wetland-, or riparian dependant will not be identified as a priority. However, if a project that produces benefits for a priority species also provides benefits for other listed species, it will receive preferential consideration. Examples include San Joaquin kit fox and the Bakersfield cactus.

3.3 Recreational and commercial species

Priorities for species that are important for their use by humans are guided by the need to provide for sustainable harvest and by the need to provide for safe consumption. Generally species that have experienced sharp declines or which have problems with body burdens of contaminants which cause human health concerns were identified as of equal importance. *(This statement must be clarified and substantiated. What contaminants? What source? What health concerns? Importance equal to what? What is the most reasonable and prudent solution?)*

Striped bass and sturgeon are species that would be identified as a priority under either approach because there have been both population declines and evidence of contamination. Salmon and steelhead are species that would be a priority because population declines have sharply limited opportunities for consumptive use.

Other species such as American shad and waterfowl *(need to define how waterfowl are Delta dependent species and are thus accorded treatment under the Bay/Delta program. Need also define and substantiate waterfowl population objectives in context of their whole life history)* have also experienced population declines *(other factors that have nothing to do with the Delta or any condition in the state of California impacting populations must be noted and assessed for relative importance to the status of the population)* which have limited harvest opportunities. Populations of waterfowl that are particularly sensitive to water management and/or whose body burdens pose health risks to human consumers will be given a higher priority. Health warnings for human consumption of waterfowl species have been identified for all species in the Grasslands area and for scaup and scoter species in Suisun Bay, San Pablo Bay and San Francisco Bay. Waterfowl species declines have been noted for the northern pintail, for sea ducks generally found in the bays such as eiders and scoters, and for the Lesser scaup. *(Suggested edit: Delete reference to sea ducks because they are generally outside the scope of CALFED.)*

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4.0 Project Evaluation Criteria

The following criteria should be considered in evaluating actions:

- . Appropriateness of the project to the *COMPREHENSIVE* mission and goals of CALFED and the relevance to the established priorities (*define in the context of the objectives of the entire CALFED program*),
- . Ecological and biological benefits (*in relation to the whole of the CALFED program*),
- . Ecological and biological adverse impacts and uncertainties
- . Qualifications of the applicants and adequacy of facilities for carrying out the proposed project,
- . Technical merit of the proposed project,
- . Technical and timing feasibility,
- . Degree of cost sharing and local involvement,
- . Compatibility with, and benefits for non-ecosystem CALFED objectives,
- . Cost,
- . Adequacy of the monitoring, assessment, and reporting plans,
- . Degree to which there is evaluation of and, where possible, resolution of biological uncertainty,
- . The level of transferable knowledge and protocols,
- . The degree of synergy with other projects at the landscape level,
- . The likelihood of success.

The Management Team has recommended that 80% of the funds should be for implementation of actions as opposed to other phases such as planning and research.

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